



Another Antenna?

Jim ABØ UK

January/February 2006

Volume 56 Issue 1/2

While searching for more things to build and always wanting to take advantage of unique features in my radios I decided to construct a receive only antenna. My Elecraft K2 has a receive only antenna port that is a part of the installed optional 160 meter module. The business end of the antenna is connected to this port.

The antenna is made from stranded 20 AWG wire with PVC insulation. Stranded was used because it is more flexible and less apt to break than solid wire. Insulated wire was chose for longevity and protection from adverse weather. Hopefully, the insulation will also prevent signal degradation during adverse weather. PVC insulated wire was about half the cost of enameled wire. The to-



Figure 1. ABØUK's receive-only wire antenna neatly installed along the fence.

tal length is about 230 feet long. It is mostly a "U" shape with the open end facing south. About 90 feet is west to east. An additional 90 feet is north to south being about evenly split between to the two legs of the "U". The remainder goes back north along the side of the house and around the corner to my basement shack. From the radio there is a total of about 10 feet of coax from the radio thru an inside antenna switch and out to a "poor man's" surge

protector between the wire and coax.

The wire is about five feet six inches off the ground. It is held in place with quarter inch cable clamps which in turn are held in place with small wood screws attached to the side of and near the top of the wooden fence around the perimeter of the backyard (Figure 1). This size clamp was chose so the wire could be easily pulled thru dur-

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PPRAA Meeting Information

The Pikes Peak Radio Amateur Association meets monthly at 7:00 p.m. on the 2nd Wednesday of each month at the El Paso County Health Department Auditorium, 305 S. Union Blvd, downstairs at the apex of the two buildings. For a map, please visit our web site at <http://www.qsl.net/ppraa/> or contact any of the board members for more information.

Amateur Radio License Exam Info

The Pikes Peak Radio Amateur Association Volunteer Examiner (VE) team holds testing sessions every other month, in even-numbered months. They're held on the 2nd Saturday of these months at 9:00 a.m. at the Colorado Technical University, 4435 North Chestnut (just west of I-25 and just south of Garden of the Gods Rd.). Exam fee is \$14.00 for 1, 2, 3, or all 4 elements at a session. Checks should be payable to ARRL/VEC. For further details and for a list of what to bring, contact Erik Mugele KGØXE or Dennis Major NØABC, or visit the PPRAA web site.

PPRAA Is A Nonprofit 501(c)(3) Organization

The PPRAA is a federal 501(c)(3) nonprofit organization, and welcomes all contributions. Your contributions or donations may be tax-deductible.

PPRAA Web Site and E-Mail Reflector

PPRAA web site is at <http://www.qsl.net/ppraa/>, which is maintained by Doug Nielsen N7LEM. Thanks, Doug! Stay on top of new or short-fused developments by subscribing to our e-mail reflector: <http://mailman.qth.net/mailman/listinfo/ppraanet>. Thanks to John Wishart, KCØJFH for maintaining the reflector!

PPRAA Simplex Net

Don't forget about the PPRAA Simplex Net on Thursday nights at 7:00 p.m.! Net control duties are rotating among club members—now is your chance to volunteer to be a net control! Join everyone

Officers and Directors

President	Christopher Taylor	NC6T*	260-8081	nc6t@arrl.net
Vice President	Mike Allison	KØMLA	590-4812	k0mla@arrl.net
Secretary	John Wishart	KCØJFH*	481-2439	jrwishart@msn.com
Treasurer	Jim Harris	ABØUK	641-8477	ab0uk@yahoo.com
O-Beat Editor	TBA (send submissions to nc6t@arrl.net in interim)			
Past President	Rick Brown	KØSU*	531-9423	k0su@adelphia.net
Director	Mike Anderson	WV7T*	229-8610	wv7t@arrl.net
Director	Su Goguen	KCØPRN	481-8684	cobweb@divide.net
Director	Paul Moraine	NØPWM	638-0273	pmoraine@msn.com

* In final year of 2-year term.

Committee Chairs / Points Of Contact

Auditing	Open			
Asset	Mike Stansberry	KØTER	636-1290	k0ter@arrl.net
E-Mail Reflector	John Wishart	KCØJFH	481-2439	kc0jfh@arrl.net
Field Day	Dan Scott	KBØPPM	635-0871	kb0ppm@arrl.net
Swapfest	Rick Brown	KØSU	531-9423	k0su@adelphia.net
Historian	Ron Deutsch	NKØP	593-8352	nk0p@adelphia.net
Interference	Bill Petty	NØNJX	532-1439	
Membership	Les Borst	KCØNC	634-3995	kc0nc@falconbroadband.net
Programs	Mike Allison	KØMLA	590-4812	k0mla@arrl.net
Publicity	Christopher Taylor	NC6T	260-8081	nc6t@arrl.net
Public Service	Mike Stansberry	KØTER	636-1290	k0ter@arrl.net
Technical Education	Mike Anderson	WV7T	229-8610	wv7t@arrl.net
VEC Liaison	Dennis Major	NØABC	531-6774	n0abc@arrl.net
VE Contact	Erik Mugele	KGØXE	278-4363	ve@teuton.org
Webmaster	Doug Nielsen	N7LEM	282-8554	n7lem@n7lem.net
AMSAT Coord.	Tom McDaniel	NØNTX	570-1465	n0ntx@amsat.org
ARRL Awards Mgr.	Rick Brown	KØSU	531-9423	k0su@adelphia.net
ARES Emerg Coord	Dean Haskins	KAØPII	687-3384	ka0pii@att.net
ARES Liaison	Mike Stansberry	KØTER	636-1290	k0ter@arrl.net
ARRL Section Mgr.	Jeff Ryan	KØRM		k0rm@arrl.org
CCARC Liaison	Dan Scott	KBØPPM	635-0871	kb0ppm@arrl.net
HamCon Chairman	Jerry VerDuft	ADØA	634-8066	verduft8066@msn.com
RACES Officer	Doc Cornell	WØMCT	596-4216	w0mct@aol.com

for a good time, find out the latest, test out your ability to copy other stations via simplex, and listen to the ARRL Audio News! The frequency is 146.58 MHz simplex and the backup frequency is 146.55 MHz.

Deadline for Next Ø-Beat Articles

The deadline for Ø-Beat articles and ads is the 25th of the month. Send all submissions to the editor via e-mail, US Mail, telephone or in person. Please feel free to submit an article—we're always looking for fresh content!

Upcoming Club Programs

February: Wes Wilson KØHBZ, Colorado Disaster Response Team support for Hurricane Katrina Recovery

March: Colorado Springs Utilities, Electric Safety

April: Practical Foxhunting

June: Field Day and Megafest Planning

October: Elections!

President's Message *Christopher NC6T*

While it may be a slow winter season for some folks, anyone participating in activities with the PPRAA certainly has plenty of opportunities to stay busy! There is a lot of advanced planning that goes on for both the Megafest and Field Day now—many months ahead of the event dates.

Rick KØSU has gathered a good group of volunteers for the Megafest on July 8th. That doesn't mean that it's too late for you to get involved too! This is always a fun event to be a part of, and a real showcase for our club.

Dan KBØPPM has been doing a bit of planning for the club's Field Day participation this year. Since Dan was our Field Day coordinator last year, he has a good grasp on all of the elements that go in to making Field Day a success. Get in touch with him to be a part of the fun!

Mike WV7T has proposed that the club start up an informal Saturday breakfast once a month. This will be a nice opportunity to get together with fellow hams in a casual and fun setting. Send Mike your ideas for the best time to meet and your favorite restaurant.

The PPRAA Simplex Net is back for 2006 each Thursday evening at 7:00 p.m. on 146.58 MHz. Net control duties are being shared by myself, Mike KØMLA, Paul NØPWM, and Pat KCØMIR. I've breadboarded an interface circuit for getting the ARRL Audio News on the air, so by the time you read this that feature should again be a regular part of the net. We're still looking for additional net control operators, so let me know if you'd like to try it out!

The list of officers, directors and committee chairs here in the Ø-Beat is a good starting point for getting more involved with the club. So let's get to it! 73! Ø-B

January Club Meeting Minutes

January 11, 2006

President Christopher Taylor NC6T, called the meeting to order at 7:02 p.m. local time at the El Paso County Health Department Auditorium followed by introductions around the room.

Silent Keys: Jake NØCYR. Doc WØMCT spoke and said that there was a huge amount of yellow club jackets at the services held for Jake today. It was a fine tribute to Jake and the hobby to see everyone there.

Dennis NØABC/Mike KØMLA moved/seconded that the min-

utes be approved as printed in the Ø-Beat. Passed.

Treasurers Report: Jim ABØUK reported that we had spent a total of \$1,549.97 from November 10, 2005 through January 8, 2006. We had taken in \$786.00 in dues and donations during that time frame. He also reported that there was a total amount of \$5,231.50 in encumbered funds of which we had spent \$3,741.97 (October 27, 2005 through January 8, 2006) leaving a total of \$1,489.53 remaining encumbered. This

leaves a balance of \$7472.03 between all three accounts.

Committee Reports

Assets: Mike KØTER wishes the club rent a storage space to house the clubs assets. He recommended that we talk with the PPFMA to see if a storage area could be rented to store both organizations equipment. He also stated that an inventory will be conducted when the clubs assets are moved into some sort of storage area. Christopher, NC6T will bring this issue up at the next Board Meeting.

Public Service: Mike KØTER stated that there are a couple of

(Continued on page 5)

January Board Meeting Minutes

January 16, 2006

President Christopher Taylor NC6T called the meeting to order at 7:00 p.m. at The Remodeler conference room, 3205 N. Hancock Ave. in Colorado Springs.

Attendees: Christopher NC6T, Jim ABØUK, John KCØJFH, Jim ABØUK, Paul NØPWM, Mike KØMLA, Mike WV7T, Rhoda KB2BZY, Les KCØNC, Su KCØPRN, Dennis NØABC, Art Goguen (guest).

Treasurer's Report: Jim ABØUK reported that our total (3 accounts) current balance is \$7817.16.

Ø-Beat: Jackie has experienced some difficulties in getting the January issue out.

Annual Equipment Inventory: this is still pending with Rick and Mike.

Club Banner: Pat got a quote for various-sized banners. Rick currently has our swapfest banner. A table-sized banner is still needed.

Hamcon 2006: Rick volunteered to work our club table at Hamcon. Other volunteers are still needed.

Donations: A donation letter for the antenna for W2TJO is

needed. The antenna needs to be picked up.

Bylaws Review: Please take a look at the bylaws to see if anything further needs changing.

Christmas Party: We need to add an entry into the club manual to facilitate planning for this event. Su will provide the article.

New Business:

Simplex Net: Thanks to Jim for his service in running the Simplex Net. We still need a net control station to run the net in the future. Mike KØMLA will do this on Thursday. Christopher and Paul will also act as net controls.

Programs: Mike KØMLA outlined upcoming programs:

February—ARES DRT Lessons Learned; March—Practical Fox-hunting; April—Electrical Safety Demo; May—open; June—Field Day Prep; July—September—Open

Committee Vacancies: We still need a volunteer to fill the Auditing Committee chair.

Roundtable Comments:

Jim: wishes the club would consider a 10 meter repeater.

Mike KØMLA: the 200th anniversary of Zebulon Pike's discovery of Pikes Peak is this year. Would

we consider a special operating event to commemorate this occasion?

Les: membership renewals are still coming in. He requested that we use the official club colors (brown & gold) for the new banner.

Dennis: could we increase the number of ads in the Ø-Beat to defray some of the distribution costs? Could we do some radio-related kits to increase member participation (example: RDF Handi-Finder)?

Paul: could we have some technical workshops (examples: soldering, troubleshooting basics, radio programming)? A RACES exercise was held last Saturday.

A PPRAA Megafest meeting will be held this Saturday, January 21, 2006, at 9:00 a.m. at The Remodeler, 3205 N. Hancock.

The Aurora Repeater Association Swapfest is coming up 9:00 a.m., Sunday, February 12, 2006 at the Adams County Fairgrounds in Brighton.

The next PPRAA board meeting is Monday, February 13, 7:00 p.m., at The Remodeler, 3205 N. Hancock.

Christopher adjourned the meeting at 8:15 p.m.

Submitted by John Wishart KCØJFH, Secretary. Ø-B

(January Meeting Minutes from page 3)

events that PPARES will not be helping out with this summer. He will be presenting these events to the PPRAA in order to get volunteers to help with communications.

Swapfest: Rick KØSU, the planning for the swapfest is moving along. It is scheduled for the 8th of July at Lewis-Palmer High School. CMRG will most likely be donating a \$400 gift certificate as a second place door prize for this year's event. The next planning meeting will be held on January 21st at The Remodeler. Rick is still searching for volunteers to help out with the major fund raising event for the club. Rick also made a motion, seconded by Mike KØTER that \$1200.00 be allocated for door prize purchases for the swapfest, this motion passed.

Interference: Mike KØMLA stated that he has helped out KØTER with a noise complaint at his QTH. Springs Utilities found a staple on a crossarm that was arcing over. A new noise issue has evolved in KØTER's area that is only making noise on windy days. Springs Utilities is looking into this issue.

Programs: Mike KØMLA, the February program will be on lessons learned by the DRT when they responded to the Hurricane Katrina area. March and April

will be a foxhunting information session, and the Electric Safety Demonstration from Springs Utilities. Which one is in March and which one is in April is still being worked out. The June program will be the final planning for the Swapfest and Field Day and the October program will be elections. May, July, Aug, and September are still being worked out.

Publicity: Christopher NC6T will get info printed once the major door prizes are purchased for Swapfest.

Technical Education: Mike WV7T stated the General class is on hold right now. He is in the process of moving and has also been involved in a car accident which limits what he can do right now. He will be hosting Field Day at his home QTH again this year for those that don't wish to drive up to the site in the mountains. Frank Skinner may take over the Technician classes and Dan ACØCC stated he had found a location to hold these classes and he will get in touch with WV7T and Frank Skinner with the details.

VEC: Dennis NØABC, there were a total of five candidates at the December session. Two new technicians, one Extra, and one nothing—Extra without the code. The next session will be on the second Saturday in February at Colorado Technical University.

Web: Doug N7LEM stated that all is going well with the web. Please let him know if you have any updates or items for Dits and Bits.

AMSAT: Tom NØNTX, not much going on right now, waiting for word on the SuitSat where an old Russian space suit will be outfitted with radio equipment and launched out of the Space Station.

Awards: Rick KØSU, no report.

ARES: Mike KØTER, no report.

Hamcon 2006: will be held on the second weekend in June in Estes Park, CO.

RACES: Doc WØMCT stated that the RACES group meets on the 3rd Thursday of each month at 101 W. Cucharas. They will be having an exercise this weekend to work with the Sheriff's Office to see where dead spots are with their radio system and determine how RACES can reach those areas.

New Business: Mike WV7T stated that there will be a group operating the January VHF sweepstakes.

After the break Rick KØSU presented Susan KCØSYA with the Hammy Award for gathering several door prizes for the Christmas Party. Great job Susan! After the door prize drawings, several people showed off their

(Continued on page 8)

Suitsat on the Air February 3rd!

One of the strangest satellites in the history of the space age is about to go into orbit. Launch date: Feb. 3rd. That's when astronauts onboard the International Space Station (ISS) will hurl an empty spacesuit overboard.

The spacesuit is the satellite -- "SuitSat" for short.

"SuitSat is a Russian brainstorm," explains Frank Bauer of NASA's Goddard Space Flight Center. "Some of our Russian partners in the ISS program, mainly a group led by Sergey Samburov, had an idea: Maybe we can turn old spacesuits into useful satellites." SuitSat is a first test of that idea.

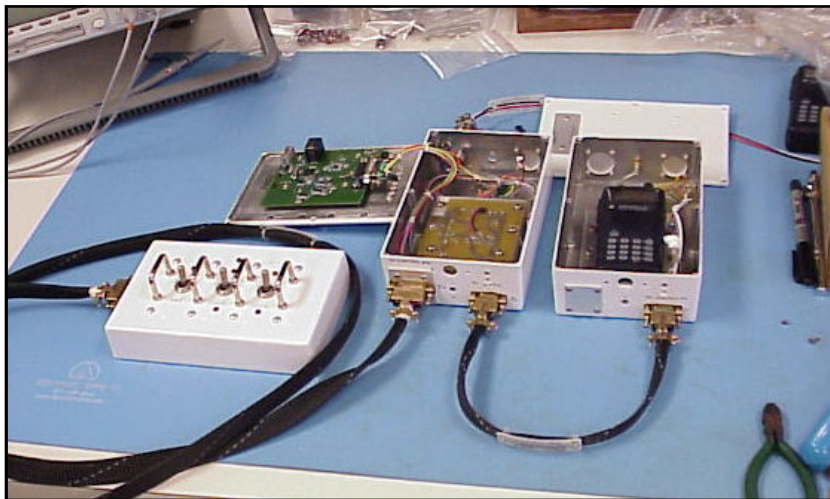
"We've equipped a Russian Orlan spacesuit with three batteries, a radio transmitter, and internal sensors to measure temperature and battery power," says Bauer. "As SuitSat circles Earth, it will transmit its condition to the ground."

Unlike a normal spacewalk, with a human inside the suit, SuitSat's temperature controls will be turned off to conserve power.

The suit, arms and legs akimbo, possibly spinning, will be exposed to the fierce rays of the sun with no way to regulate its internal temperature.

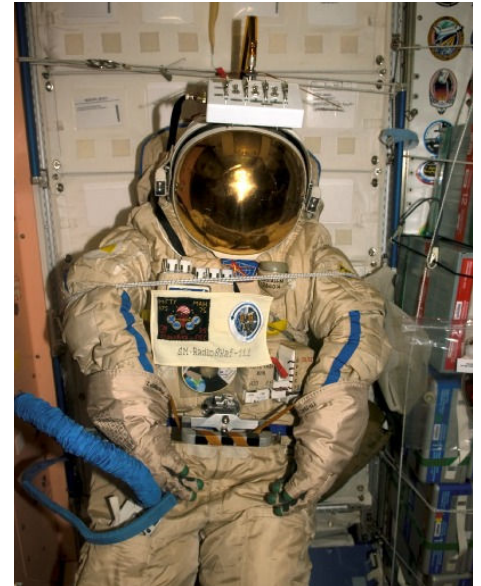
"Will the suit overheat? How long will the batteries last? Can we get a clear transmission if the suit tumbles?" wonders Bauer. These are some of the questions SuitSat will answer, laying the groundwork for SuitSats of the future.

SuitSat can be heard by anyone on the ground. "All you need is an antenna (the bigger the better) and a radio receiver that you



SuitSat electronics undergoing bench testing and integration

can tune to 145.990 MHz FM," says Bauer. "A police band scanner or a hand-talkie ham radio would work just fine." He encourages students, scouts, teachers



SuitSat ready to go on board the ISS.

and ham radio operators to tune in.

For years, Bauer and colleagues at Goddard have been connecting kids on Earth with astronauts

on the ISS through the ARISS program (Amateur Radio on International Space Station). "There's a ham rig on the ISS, and the astronauts love talking to students when they pass over schools," Bauer explains. ARISS is co-sponsoring SuitSat along with the Radio

Amateur Satellite Corporation (AMSAT), the American Radio Relay League (ARRL), the Russian Space Agency and NASA.

When will SuitSat orbit over your home town?

Use Science@NASA's J-Pass utility to find out. The online program will ask for your zip code—that's all. Then it will tell you when the ISS is going to orbit over your area. (Be sure to click the "options" button and select "all passes.") Because the ISS and SuitSat share similar orbits, predictions for one will serve for the other. Observers in the United States will find that SuitSat passes overhead once or twice a day—usually between midnight and 4 o'clock in the morning. At that time of day, SuitSat and the ISS will be in Earth's shadow and, thus, too dark to see with the naked eye. You'll need a radio to detect them.

"Point your antenna to the sky during the 5-to-10 minute flyby," advises Bauer, and this is what you'll hear:

SuitSat transmits for 30 seconds, pauses for 30 seconds, and then repeats. "This is SuitSat-1, RSORS," the transmission begins, followed by a prerecorded greeting in five languages. The greeting contains "special words" in English, French, Japanese, Russian, German and Spanish for students to record and decipher. Awards will be given to students who do this.

Next comes telemetry: temperature, battery power, mission elapsed time. "The telemetry is stated in plain language—in Eng-

lish," says Bauer. Everyone will be privy to SuitSat's condition. Bauer adds, "Suitsat 'talks' using a voice synthesizer. It's pretty amazing."

The transmission ends with a Slow Scan TV picture. Of what? "We're not telling," laughs Bauer. "It's a mystery picture." (More awards will be given to students who figure out what it is.)

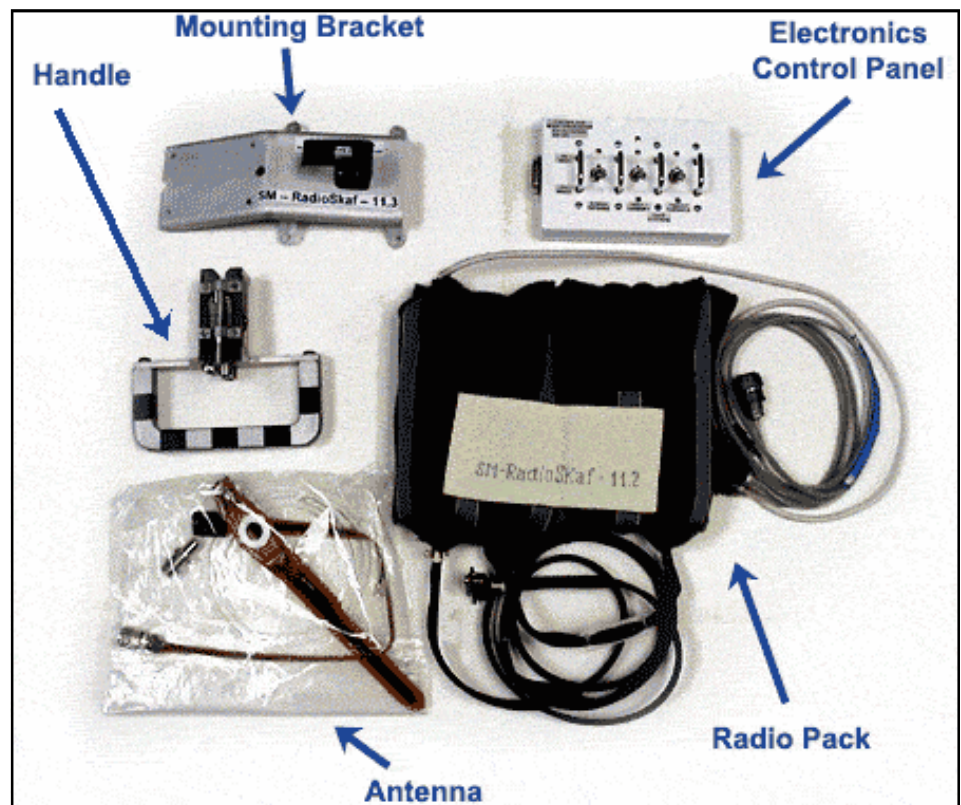
Bauer expects SuitSat's batteries to last 2 to 4 days. "Although longer is possible," he allows. After that, SuitSat will begin a slow silent spiral into Earth's atmosphere. Weeks or months later, no one knows exactly when, it will become a brilliant

fireball over some part of Earth—a fitting end for a trailblazer.

Visit SuitSat.org for launch updates and sighting reports.

Since SuitSat will be operating on the ISS world wide packet uplink frequency of 145.99 MHz, it is requested that all packet operations on that frequency be suspended for the duration of the SuitSat transmissions. Keeping transmissions off the downlink frequency will help to avoid local interference to the 1/2 watt downlink signal from SuitSat.

[From Science@NASA/AMSAT January 26, 2006] Ø-B



Detail of SuitSat components that will be integrated with a used Russian space suit.

(January Meeting Minutes from page 5)

homebrew projects. There was a great variety of projects ranging from building a simple 3 element beam from a tape measure to



NC6T's homebrew portable rig set from January's meeting.

building an HF radio! Thanks to all those who brought in projects to show the group.

The meeting adjourned at 8:48 p.m. local time. The next meeting will be held on Wednesday, February 8th, 2006 at 7:00 p.m. local.

Ø-B

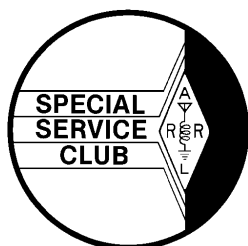
Membership News

Please welcome these new members:

Daniel Beals	ACØCC
Jackie Cornwell	ACØCA
Aaron Glock	KCØTVZ
Ernie Glock	KCØUNL
Helen Grupe	
Burl Grupe	KA9UCC
Leighton Hogue	KAØZHN
Paul Signorelli	WØRW
Jim Voige	W9K0Z

There are 93 members who need to see the treasurer (send in those renewals!).

Total Number of Members: 187



Peter I DXpedition 3Y0X to Antarctica!

The PPRAA has donated \$1,000 to the Peter I DXpedition, making us a "King Level" contributor to this adventure in Antarctica! Our club logo will be on their QSL card. They plan to be on the air starting around February 8th. Below is an update from the team.

Our sea container containing all of our equipment, and most of the team's personal gear is aboard the vessel DAP Mares which is now in the S. Shetland Islands. Our foodstuffs are also aboard after being purchased in Punta Arenas, Chile.

Planned Operating Frequencies for 3Y0X

BAND	SSB	CW	Digital
10	28475	28023	28092 (Listening up!)
12	24987	24893	24928 (Listening down!)
15	21295	21023	21102 (Listening down!)
17	18145	18073	18108 (listening down!)
20	14190	14023	14084 (Listening up!)
30	n/a	10103	10135 (Listening up!)
40	7093	7023	
80	3750	3523	
160	1842.5	1822.5	

The team will be reunited with their equipment and gear on or about February 2nd to begin the four-day voyage to Peter I. Remember these dates are target dates and weather-dependent.

The team has been assigned the special Chilean Antarctic call sign of XR9A for use to/from Pe-

ter I. We hope to be QRV from Punta Arenas for a few days and then maritime mobile to and from Peter I. There is also a possibility that the team will also be QRV from the South Shetlands for a few days after the Peter I DXpedition is complete.

Our website, www.peterone.com, will be updated regularly and should be checked often. The website should be considered the best source of updated and correct DXpedition news direct from the DXpedition leaders.

We are currently designing a

special "souvenir" QSL card to commemorate your QSOs. Please QSL via N200.

73,

Ralph, KØIR and Bob, K4UEE
Peter I DXpedition co-leaders

Ø-B

Megafest On Track for July 8 *Rick KØSU*

Planning is well underway for the club-sponsored Megafest, again at Lewis-Palmer High School. This year we have moved the date to July 8th to avoid conflicts with other ham radio activities occurring in June.

This year there is going to be a club table to sell some of the older club assets that are not being used. Mike WV7T and Jim ABØUK have volunteered to man this table.

The prizes for the raffle will be: Grand Prize—Yaesu FT-897D HF/VHF/UHF transceiver, Second Prize—Yaesu FT-8800R dual band mobile transceiver (donated the Cheyenne Mountain Repeater Group), and Third Prize—Yaesu VX-6R tri-band HT. Raffle tickets are scheduled to be on sale by the February club meeting.

Su KØPRN is attempting to locate a food vendor for us. If you know of a group that might want to take on this task please contact Su and let her know.

Hourly Prizes are being coordinated by Susan KØSYA. In past years we have had many hourly door prizes and I expect that will continue this year. If you can help Susan in coming up with donations for the prize table please let her know.

John KØJFH is in charge of tables. Now we rent the tables directly from the school. We found this was a great advantage last year since it took us much less time to set up and tear down the tables. These tables are six feet in length versus the eight foot tables we used to rent. If you have lots of stuff to sell you might want to consider renting two tables.

Christopher NC6T is coordinating publicity. He has completed a Megafest flyer for distribution to clubs, vendors and others. Watch for the bright yellow flyer at club meetings and around the area. If you can help get the word out about the Megafest it will help us very much. Christopher will be happy to provide you with flyers to put up in your workplace or anywhere else that might be beneficial.

Doc WØMCT will provide the talk-in station again this year. Doc will need help, so please don't hesitate to give him a hand.

You can tell there are a lot of folks helping out but we can always use a helping hand. If you would like to help in any way please give me a call. My home phone is 531-9423 or email me at kØsu@adelphia.net to let me know what you can do. **Ø-B**

PPARES



2006 has been a quiet year for PPARES. So far.

Rob, N7LV, CO SEC and Wes, KØHBZ, D-Ø/DRT EC have been supporting the planning for a National Disaster Medical System (NDMS) table top exercise to be held in June. Both Rob and Wes may observe the exercise, but no active ARES participation is planned. NDMS officials are planning another state-wide exercise for 2007 and will use ARES assets from all over Colorado, many of them from PPARES.

Qwest has donated a tower, log periodic antenna, and rotor to PPARES.

The Air Force Academy is planning an exercise for June and has asked for support from PPARES. The exercise is still in the planning phase and no details are available.

Minimum Essential ARES Training (MEAT) will be presented again this spring. Stand by for the date.

Mike Allen NØMIK,
PPARES Executive AEC

[Ed. Note: No RACES report was submitted this month] **Ø-B**

(Antenna from page 1)

ing installation and to allow flexing during temperature changes.

The “poor man’s” surge protector is simply a high, in this case a 4.5 megohm 5 watt resistor. This resistor is placed between the coax center conductor and it’s shield (Figure 2). The high



Figure 2. The “poor man’s” antenna line surge protector.

value was chosen (should be 1 megohm or greater) to bleed off static electricity build up. It’s high value in parallel with the radio’s antenna impedance does not appreciably affect that impedance. A one amp slow-blow fuse was added inline between the single wire of the antenna and center conductor of the coax. Should there be a major electrical surge such as a nearby lightning strike the fuse will open, offering protection to the radio. Also, the antenna switch has a center-off position that grounds the coax’s center and outer shield to ground. Some have critiqued this style of surge protector as offering little protec-

tion in case of a massive surge or direct lightning strike. Remember no surge protector will stop a direct lightning strike. Further, the one inch gap in an “AGC” fuse when opened by a surge is much more than the space in a commercial surge protector thereby offering more resistance. Some commercial surge protectors use a gas dis-

charge tube to shunt surges to ground. These are limited in current capacity and are 10 times more expensive to replace than a simple electrical fuse. Do not attempt to solder directly to the fuse or it’s holder with the fuse inserted. The fusible link will melt from the heat thereby rendering the fuse useless.

In some ways this antenna resembles a beverage antenna. It’s height at five feet six inches is in the expected height range of a beverage at 0.3 to 4 meters. It is nearly one wavelength long for the 80 meter band. A beverage is about one to four wavelengths long. A beverage is expected to have a termination re-

sistor of about 300-800 ohms to ground at the opposite end from the radio’s receive antenna port. A 570 ohm resistor was used. Beverage antennas are usually straight while this one is in a “U” shape as described above. The advantage of a beverage antenna is it has directivity on low bands. Directivity on low bands is difficult to achieve due to antenna size. A directional Yagi antenna on 80 meters would have a beam of close to 60 feet and double that for 160 meters. The down side of a beverage is it’s “gain” may be less than a combination transmit and receive antenna. Preamps are frequently used with beverage antennas to boost signal strength. Beverages are usually quieter than other antennas as are most directional antennas.

So... how does it all play? As of this writing a 160 meter antenna is not available for comparison. Stations are clearly heard on this band, however, with the AF gain near mid-range. When the weather warms a 160 meter antenna will be erected and a comparison made. For 80 meters a Titan Gap vertical antenna was used for comparison. Reception on the wire receive antenna was 2-3 “S” units higher than the Titan. On 40 meters it was about even to 1-2 “S” units lower. On

(Continued on page 11)

(Antenna from page 10)

frequencies about 40 meters it was several "S" units below the Titan and a tribander. The higher bands had progressively lower received signal strength. So far there does not appear to be a clear "X" or "Y" pattern. As more experience is gained hopefully a pattern will emerge.

This was a fun project that was not very expensive and required little time to assemble and put in place. Total cost was around \$15 with some parts coming from my "junk" box and the remainder from a local surplus retailer. New parts would cost

around \$25 excluding the antenna switch. Total construction time was 3-4 hours with another 1-2 hours rounding up parts. So expect 4-6 hours to have it up and receiving. If you have further interest in this antenna or would like assistance in building one or any antenna you may call me at 641-8477 or email me at

ab0uk@msn.com. Just a word of caution: don't build a receive only antenna expecting to remember to change the position of an antenna switch every time you transmit. In a very short time you will forget to switch the antenna and could easily damage your radio! Have loads of fun and enjoy. **Ø-B**

Jess Miley

KØTAA

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Name: _____ Call: _____ Class: _____ ARRL? _____		Over 65 Family \$12: <input type="checkbox"/>
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New and renewing members must submit a completed application form along with your check to the Treasurer.

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Upcoming Events

February 8—Club Meeting 7:00 p.m. @ El Paso County Health Department Auditorium, 305 S. Union

February 11—Amateur radio license testing 9:00 a.m. @ Colorado Technical University 4435 North Chestnut

February 11—Special Operating Event @ Olympic Training Center, Mountain Amateur Radio Club celebrates the opening of the Winter Olympic Games. Details at www.nx0g.org

February 13—Club Board Meeting 7:00 p.m. @ The Remodeler, 3205 N. Hancock

February 18—Edge of Space Sciences balloon launch 8:00 a.m. in Windsor, CO. Details at www.eoss.org

March 8—Club Meeting 7:00 p.m. @ El Paso County Health Department Auditorium, 305 S. Union

Dits and Bits

Contact Doug, N7LEM n7lem@arrl.net if you would like to list an item. It will also appear on the club web site.

FOR SALE: Gap Titan DX antenna Covers 10, 12, 15, 17, 20, 30, and 40 meters and 100 KHz on 80. All mounting hardware included. If it was in the box when I bought it, it's still there. This antenna has never been out of the box, much less used. Sells for \$359 new, I'm asking \$200. Mike Allen NØMIK, 337-7900 (cell)

FOR SALE: Gap Quick Tilt antenna mount. I was going to use it with the Titan DX, but that didn't happen. It's still in the

original box, never used. Sells new for \$79, I'd like \$25. Mike Allen NØMIK, 337-7900 (cell)

FOR SALE: I am selling one of my VX-5R (silver). I have the radio, dual/tri band antenna, charger, belt clip, manual, and original box. Radio was \$200 new. I am the original owner and the radio has less than 6 hours operating time. I am including extra accessories free: Soft case (in store \$19.95), Earpiece/Microphone (in store \$39.95). I am asking \$200 or best offer. Mike WV7T, 229-8610

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